

IN THE CLAIMS:

This listing of the claims replaces all prior versions and listings of the claims in this application.

The text of all pending claims (including any withdrawn claims) is set forth below. Canceled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketthrough~~. The status of each claim is indicated with one of (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

Please ADD new claim 47 in accordance with the following::

1. (Previously presented) A data storage medium comprising:
main data including audio data and/or video data;
sub data recorded in a separate bitstream from the main data to be reproduced in
synchronization with the main data by a reproducing apparatus; and
navigation information defining a relation required for the main data and the sub data to
be output in synchronization with each other by the reproducing apparatus,
wherein the navigation information is generated by a recording apparatus when the main
data and the sub data are recorded in different areas on the data storage medium, to define the
relation required for the main data and the sub data for searching and content reproduction, and
wherein the navigation information comprises identifiers to identify particular bitstreams
of the main data and the sub data recorded in different areas on the data storage medium for
searching and content reproduction, and playback time information for the sub data
corresponding to the main data.

2. (Previously presented) The data storage medium of claim 1, further comprising extra
data recorded in a separate bitstream from the main data and the sub data to be reproduced in
connection with the main data by the reproducing apparatus,

wherein the navigation information further defines a relation required for the main data
and the extra data to be output in synchronization with each other by the reproducing apparatus,
and further comprises playback time information for the extra data corresponding to the main
data, and

wherein the main data, the sub data and the extra data are recorded simultaneously by alternation or in a predetermined sequential order in different areas on the data storage medium.

3. (Previously presented) The data storage medium of claim 2, wherein the main data are received and encoded by an internal encoder or are input through a digital interface and recorded on the data storage medium.

4. (Previously presented) The data storage medium of claim 2, wherein the sub data and/or the extra data are received and encoded by an internal encoder or are input through the digital interface and recorded on the data storage medium.

5. (Previously presented) A recording method comprising:

(a) recording main data including audio data and/or video data;

(b) recording sub data to be reproduced in synchronization with the main data in a separate bitstream from the main data; and

(c) recording navigation information defining a relation required for the main data and the sub data to be reproduced in synchronization with each other,

wherein the navigation information is generated during recording the main data and the sub data in different areas on a data storage medium, to define the relation required for the main data and the sub data for searching and content reproduction, and

wherein the navigation information comprises identifiers to identify particular bitstreams of the main data and the sub data recorded in the different areas on the data storage medium, and playback time information for the sub data corresponding to the main data.

6. (Previously presented) The recording method of claim 5, further comprising:

(d) recording extra data to be reproduced in connection with the main data in a separate bitstream from the main data and the sub data;

(e) recording navigation information defining a relation required for the main data and the extra data to be output in connection with each other,

wherein the navigation information further comprises playback time information for the extra data corresponding to the main data, and

wherein the main data, the sub data and the extra data are recorded simultaneously by alternation or in a predetermined sequential order in different areas on the data storage medium.

7. (Original) The recording method of claim 5, wherein step (a) comprises:

- (a1) receiving the main data through a digital interface; and
- (a2) recording the received main data.

8. (Original) The recording method of claim 5, wherein step (a) comprises:

- (a1) receiving the main data as analog signal,
- (a2) encoding the received main data; and
- (a3) recording the encoded main data.

9. (Original) The recording method of claim 5, wherein step (b) comprises:

- (b1) receiving the sub data through the digital interface; and
- (b2) recording the received sub data.

10. (Original) The recording method of claim 5, wherein step (b) comprises:

- (b1) receiving the sub data as analog signal,
- (b2) encoding the received sub data; and
- (b3) recording the encoded sub data.

11. (Original) The recording method of claim 6, wherein step (c) comprises:

- (c1) receiving the extra data through the digital interface; and
- (c2) recording the received extra data.

12. (Original) The recording method of claim 6, wherein step (c) comprises:

- (c1) receiving the extra data as analog signal,
- (c2) encoding the received extra data; and
- (c3) recording the encoded extra data.

13. (Previously presented) A reproducing method comprising:

- (a) reading main data including audio data and/or video data recorded in a discrete bitstream on a data storage medium;
- (b) reading sub data recorded in a separate bitstream from the main data, on the data storage medium which is reproduced in synchronization with the main data; and
- (c) mixing the read main data and the read sub data based on navigation information defining a relation required for the read main data and the read sub data to be reproduced in synchronization with each other,

wherein the navigation information is generated during recording the main data and the sub data in different areas on the data storage medium, to define the relation required for the main data and the sub data for searching and content reproduction, and

wherein the navigation information comprises identifiers to identify particular bitstreams of the main data and the sub data recorded in the different areas of the data storage medium, and playback time information for the read sub data corresponding to the read main data.

14. (Previously presented) The reproducing method of claim 13, further comprising (d1) outputting the mixed main data and sub data through a digital interface.

15. (Previously presented) The reproducing method of claim 13, further comprising (d2) decoding the mixed main data and sub data.

16. (Previously presented) The reproducing method of claim 13, wherein step (c) comprises:

- (c1) reading the navigation information defining a relation required for the read main data and sub data to be reproduced in synchronization with each other; and
- (c2) mixing the read main data and the read sub data based upon the navigation information.

17. (Previously presented) A reproducing method comprising:

- (a) reading main data including audio data and/or video data recorded in a discrete bitstream on a data storage medium;

(b) reading sub data recorded in a separate bitstream from the main data, on the data storage medium, which is reproduced in synchronization with the main data;

(c) reading extra data recorded in a separate bitstream from the main data and the sub data, on the data storage medium, which is reproduced in connection with the main data; and

(d) mixing the read main data, the read sub data, and the read extra data based on navigation information defining a relation required for the read main data and sub data to be reproduced in synchronization with each other and for the read main data and extra data to be reproduced in connection with each other,

wherein the navigation information is generated during recording the main data, the sub data and the extra data in different areas on the data storage medium, to define the relation required for the main data, the sub data and the extra data for searching and content reproduction, and

wherein the navigation information comprises identifiers to identify particular bitstreams of the main data, the sub data and the extra data recorded in the different areas on the data storage medium, and playback time information for the sub data and the extra data corresponding to the read main data.

18. (Previously presented) The reproducing method of claim 17, further comprising (e1) outputting the mixed main data, sub data, and extra data through a digital interface.

19. (Previously presented) The reproducing method of claim 17, further comprising (e2) decoding the mixed main data, sub data, and extra data.

20. (Previously presented) The reproducing method of claim 17, wherein step (d) comprises:

(d1) reading the navigation information defining a relation required for the read main data and sub data to be reproduced in synchronization with each other and for the read main data and extra data to be reproduced in connection with each other; and

(d2) mixing the read main data, the read sub data, and the read extra data based upon the navigation information.

21. (Previously presented) A reproducing method comprising:

- (a) reading sub data recorded in a separate bitstream from main data including audio data and/or video data, which is reproduced in synchronization with the main data;
- (b) reading extra data recorded in a separate bitstream from the main data and the sub data, which is reproduced in connection with the main data; and
- (c) mixing the read sub data and the read extra data based on navigation information defining a relation required for the read sub data and the read extra data to be reproduced in connection with the main data,

wherein the navigation information is generated during recording the main data, the sub data and the extra data in different areas on the data storage medium, to define the relation required for the main data, the sub data and the extra data for searching and content reproduction, and

wherein the navigation information comprises identifiers to identify particular bitstreams of the main data, the sub data and the extra data recorded in the different areas on the data storage medium, and playback time information for the read sub data and the read extra data corresponding to the main data.

22. (Previously presented) The reproducing method of claim 21, further comprising (d1) outputting the mixed sub data and extra data through a digital interface.

23. (Previously presented) The reproducing method of claim 21, further comprising (d2) decoding the mixed sub data and extra data.

24. (Previously presented) The reproducing method of claim 21, wherein step (c) comprises:

- (c1) reading the navigation information defining a relation required for the read sub data and extra data to be reproduced in connection with each other; and
- (c2) mixing the read sub data and the extra data based upon the navigation information.

25.–46. (Canceled)

47. (New) A data storage medium comprising:
main data including audio data and/or video data;
sub data recorded in a separate bitstream from the main data to be reproduced in
synchronization with the main data by a reproducing apparatus; and
navigation information defining a relation required for the main data and the sub data to
be output in synchronization with each other by the reproducing apparatus,
wherein the navigation information is recorded in a separate stream from the main data
and the sub data,
wherein the navigation information is generated by a recording apparatus when the main
data and the sub data are recorded in different areas on the data storage medium, to define the
relation required for the main data and the sub data for searching and content reproduction, and
wherein the navigation information comprises identifiers to identify particular bitstreams
of the main data and the sub data recorded in different areas on the data storage medium for
searching and content reproduction, and playback time information for the sub data
corresponding to the main data.